

We Claim:

1. A method for reducing transmission time and improving network utilization while broadcasting over a fully connected network, comprising the steps of:
 - simultaneously transmitting individual sequential packets by the broadcaster to each recipient in a round robin sequence until all the packets have been transmitted,
 - retransmitting received packets by each recipient to each other recipient, and
 - reassembling received packets at each recipient in the original sequence of said transmission
 said transmitting step and said retransmitting step being overlapped in time.
2. A method as claimed in claim 1 including storing packets received from said broadcaster by said recipient in two buffers namely, standard buffer and extra buffer and storing packets received from other recipients only in said standard buffer.
3. A method as claimed in claim 1 including retransmitting using a two step process, retransmitting to recipients with Ids lower than the transmitting recipient in the first step, and retransmitting to all recipients with Ids higher than the transmitting recipient in the second step.
4. A method as claimed in claim 1, wherein said transmitting and retransmitting step is in half duplex mode.

5. A method as claimed in claim 1, wherein said retransmitting step is in full duplex mode.

6. A method as claimed in claim 1 using a single buffer for storing received packets at a recipient, wherein packets received from said broadcaster are inserted at the beginning of said buffer while packets received from other recipients are stored after a defined position in said buffer.

7. A system for reducing transmission time and improving network utilization while broadcasting over a fully connected network, comprising:

- means for transmitting individual sequential packets simultaneously by the broadcaster to each recipient in a round robin sequence until all the packets have been transmitted,
- means for retransmitting received packets by each recipient to each other recipient, and
- means for reassembling received packets at each recipient in the original sequence of said transmission

said transmitting means and said retransmitting means operating simultaneously.

8. A system as claimed in claim 7 including means for storing said packets received by each recipient from said broadcaster in two buffers storage means namely, standard buffer and extra buffer while storing said packets received from other recipients in said standard buffer.

9. A system as claimed in claim 7 further including means for retransmitting said recipients with Ids lower than the transmitting recipient in the first step followed by retransmitting to all said recipients with Ids higher than the transmitting recipient.

10. A system as claimed in claim 7, wherein said transmitting and retransmitting means operate in half duplex mode.

5 11. A system as claimed in claim 7, wherein said retransmitting means operate in full duplex mode.

12. A system as claimed in claim 7 including means for storing said packets received by each recipient using a single buffer means, wherein packets received from said broadcaster are inserted at the beginning of said buffer means while packets received from other recipients are stored after a defined position in said buffer means.

10 13. A computer program product comprising computer readable program code stored on a computer readable storage medium embodied therein for reducing transmission time and improving network utilization while broadcasting over a fully connected network, comprising:

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- computer readable program code means configured for transmitting of individual sequential packets simultaneously by the broadcaster to each recipient in a round robin sequence until all the packets have been transmitted,
 - computer readable program code means configured for retransmitting of received packets by each recipient to each other recipient, and
 - computer readable program code means configured for reassembling received packets at each recipient in the original sequence of said transmission

said transmitting and said retransmitting being overlapped in time.

14. A computer program product as claimed in claim 13 including computer readable program code means configured for storing said packets received by each recipient from said broadcaster in two buffers namely, standard buffer and extra buffer while storing said packets received from other recipients in said standard buffer.
15. A computer program product as claimed in claim 13 further including computer readable program code means configured for retransmitting to said recipients with Ids lower than the transmitting recipient in the first step followed by retransmitting to all said recipients with Ids higher than the transmitting recipient.
16. A computer program product as claimed in claim 13 including computer readable program code means configured for operating said transmission and retransmission in half duplex mode.
17. A computer program product as claimed in claim 13 including computer readable program code means configured for operating said retransmission in full duplex mode.
18. A computer program product as claimed in claim 13 including computer readable program code means for storing said packets received by each recipient using a single buffer, wherein packets received from said broadcaster are inserted at the beginning of said buffer while packets received from other recipients are stored after a defined position in said buffer.